

Max Load and Cyclic Load Physical Testing



Methods

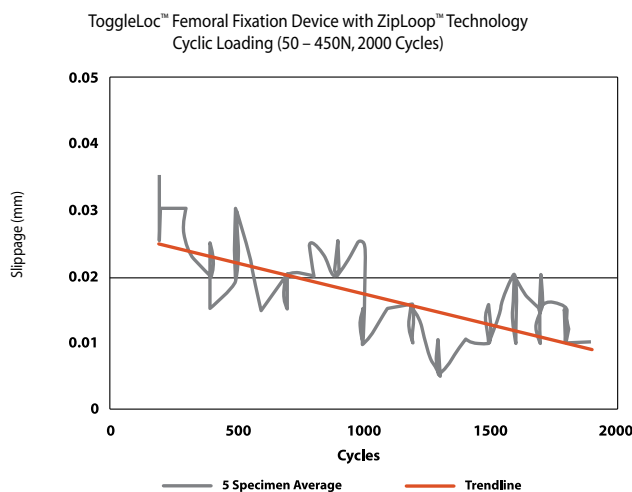
All test specimens were assembled in the same manner. Five ToggleLoc™ devices were assembled with a #7 Polyethylene strand (ZipLoop™ Technology). Yield load Testing was performed on Test Machine "Dorothy" (GPP-1257-3C, Serial # 128907A and cyclic load testing was performed on Test Machine "Sandman" (GPP-1257-5, Serial # 184549A). In the yield load group, the implant construct was pulled at 1.18mm/sec until failure. The cyclic loading test was 2,000 cycles from 50N to 450N.



Results

Implant	Avg. Peak Load (lbs)	Avg. Peak Load (N)	Cyclic Loading Slippage (mm)
#7 Adjustable Loop ToggleLoc™ Device	374.1	1664.1	0

This table shows the peak load and cyclic loading test data for the ToggleLoc™ Femoral Fixation Device with ZipLoop™ Technology.



The chart above shows displacement during cyclic load testing for the five specimens.

Discussion or Analysis

In evaluating the failure modes of each test specimen, it was found that some samples failed because the #7 polyethylene strand broke and some failed because the ToggleLoc™ button broke. This indicates that the ToggleLoc™ Femoral Fixation Device with ZipLoop™ Technology assembly achieved maximum loads. The results obtained from the yield load testing show the ToggleLoc™ Femoral Fixation Device with ZipLoop™ Technology to be as strong/stronger than other devices indicated for ACL reconstructions tested under similar means.¹

Conclusions

The ToggleLoc™ Femoral Fixation Device with ZipLoop™ Technology provides significant fixation strength with virtually no slippage while also having the ability to change the length of its loop makes it an optimum device for ACL reconstructions. Due to the ZipLoop™ Technology a surgeon can maximize the amount of collagen in a femoral tunnel, tension the ACL graft from the femoral side (after tibial fixation is achieved), and eliminate the need for multiple sizes of implants.

¹ Data on file at Biomet Sports Medicine. Bench test results are not necessarily indicative of clinical results.

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